

Safety Instructions

WARNING

Follow carefully this safety and installation instructions. Improper work may lead to serious harmful for your health and also may damage seriously the IntesisBox and/or any other equipment connected to it.

- IntesisBox must be installed by accredited electrician or similar technical personnel, following all the safety instructions given here, and in accordance always with the country legislation for installation of electric equipment.
- IntesisBox can not be installed outdoors or exposed to direct solar radiation, water, high relative humidity or dust.
- IntesisBox must only be installed in a restricted access location.
- In case of wall mount, fix firmly IntesisBox on a not vibrating surface following the instructions below.
- In case of DIN rail mount fix IntesisBox properly to the DIN rail following the instructions below.
- Mounting on DIN rail inside a metallic cabinet properly connected to earth is recommended.
- Disconnect always power of any wires before manipulating and connecting them to IntesisBox.
- Respect always the expected polarity of power and communication cables when connecting them to IntesisBox.
- Supply always a correct voltage to power IntesisBox, within voltage range admitted (230Vac +/-10%).
- This device was designed for installation in an enclosure. To avoid electrostatic discharge to the unit in environments with static levels above 4 kV precautions should be taken when the device is mounted outside an enclosure. When working in an enclosure (ex. making adjustments, setting switches etc.) typical anti-static precautions should be observed before touching the unit

Installation Instructions

- Disconnect the mains power and power of any bus or communication cable before connecting it to IntesisBox.
- Mount IntesisBox on the wall or DIN rail following the instruction given below, respecting the safety instructions given above.
- Connect the mains power cable to the supply voltage terminal block of IntesisBox.
- Circuit-breaker must be used before the mains power cable. Rating 250V-6A
- Connect the communication cables to IntesisBox, see details on the user's manual.
- Power IntesisBox and the rest of devices connected to it.
- After power-on, DALI bus LED (at the left side of DALI connector) should be ON, signalling that there is DALI bus voltage. If DALI bus LED is OFF, you should check the DALI communication line for a possible short-circuit.
- If your DALI installation is already operative, communication at DALI side can be tested by pressing the DALI test button:
 - Pressing once the button, the ballasts will switch ON (DALI led will start flashing)
 - Pressing again the button, the ballasts will switch OFF (DALI led will toggle to ON)
 - Pressing again the button, the ballasts will switch ON, and remain ON until their value is changed from Modbus side (DALI led will toggle to OFF, signaling that the test has ended).

Configuration and Setup

Use the software LinkBoxMB to configure IntesisBox. Follow User's Manual instructions for detail on the configuration process.

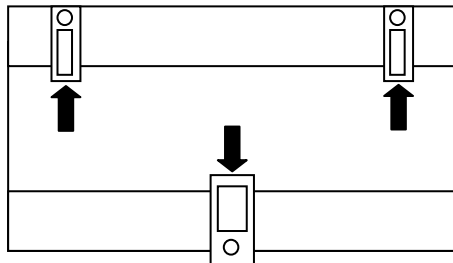
See instructions to download and install the latest version of LinkBoxMB and its user's manual at

<http://www.intesis.com/down/mb/linkboxmb.html>

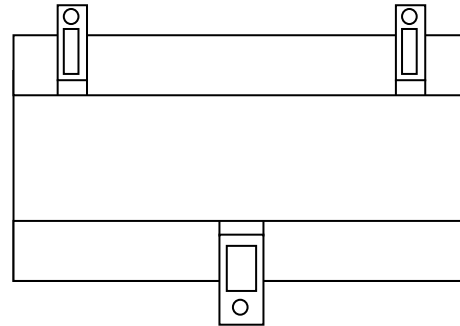
Wall mounting

1. Separate the fixing clips in the bottom of the box, pushing them to the outside until hearing the "click" which indicates that now the clips are in position for wall mount, see in the figure below.

Bottom view of the box



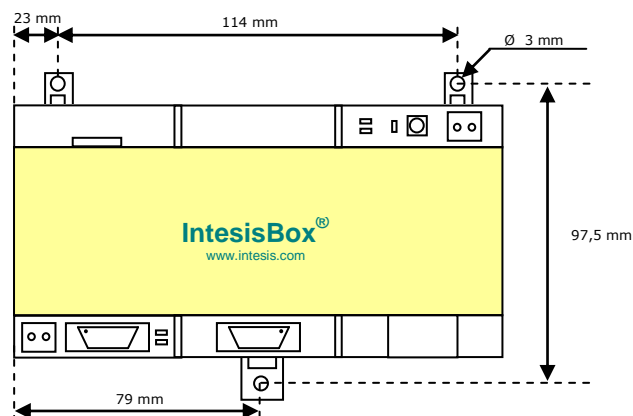
Clips in their original position, for DIN-rail mounting



Clips in wall-mount position

2. Drill 3 holes in the wall following as a guide the distances shown below. Use the holes of the clips to fix the box in the wall, using screws.

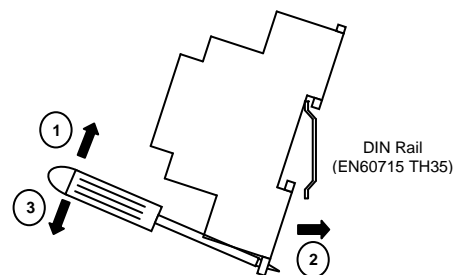
Top view of the box



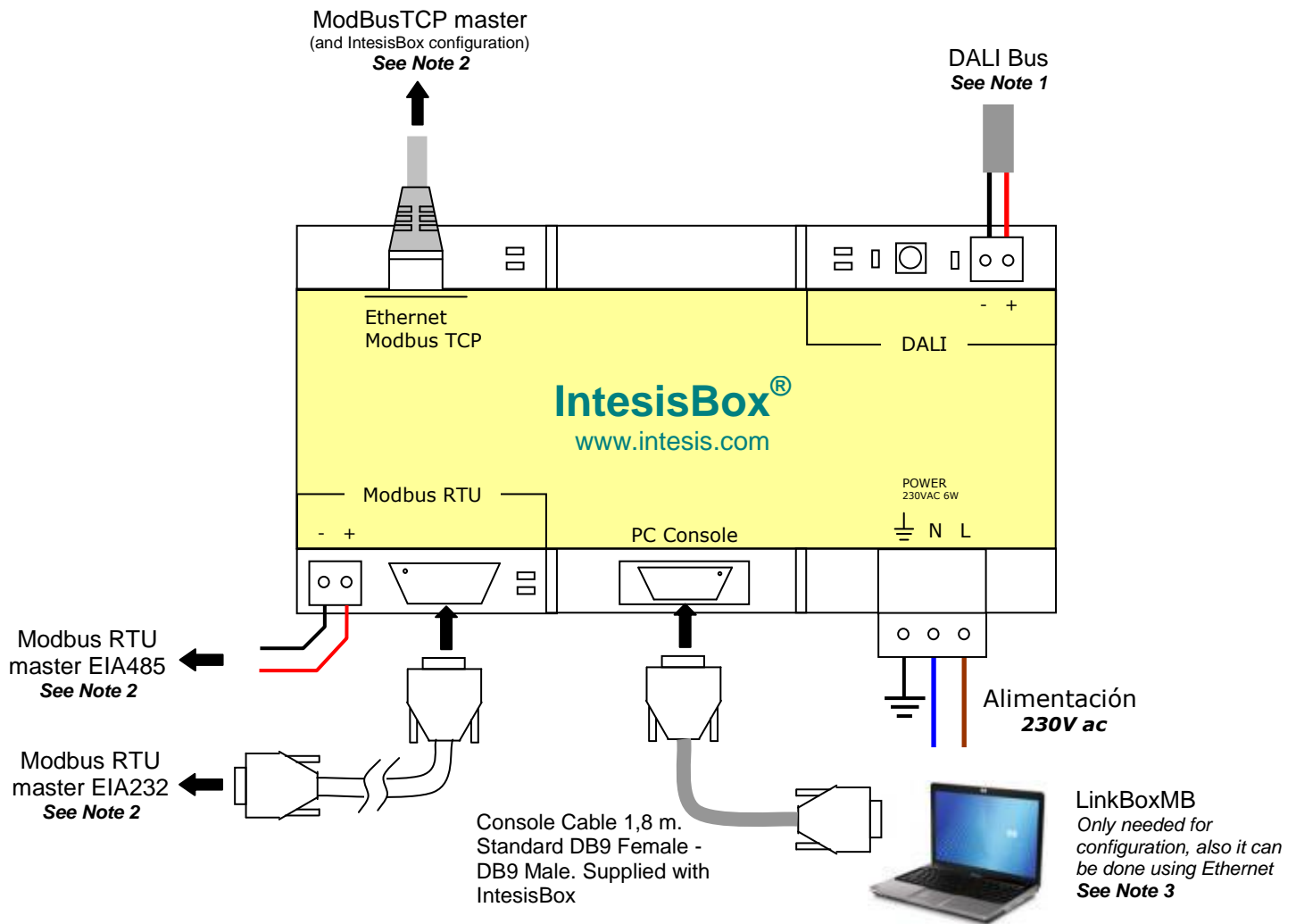
DIN rail mounting

With the clips of the box in their original position, insert first the box in the upper edge of the DIN rail. Then insert the box in the down part of the rail, using a small screwdriver, following the steps in the figure below.

Side view of the box



Connections



Notes:

- DALI connection:** Connect DALI bus to the DALI connector of IntesisBox. IntesisBox provides 15Vdc (+/-2%) DALI voltage to the bus.
- Modbus connection.** Only one Modbus connection type can be used simultaneously: Modbus TCP, Modbus RTU EIA485, or Modbus RTU EIA232, this must be configured within LinkBoxMB software.
 - Modbus TCP:** Connect the cable coming from the Modbus TCP master device to the connector ETH of IntesisBox, use a crossover ethernet CAT5 cable if connecting directly to the Modbus TCP master device, or a straight ethernet CAT5 cable if connecting to a switch or hub of the LAN of the building. If connecting using the LAN of the building contact the network administrator and make sure that TCP/IP traffic and the TCP port used (502 by default) are allowed through all the LAN path.
 - Modbus RTU EIA485:** Connect the EIA485 bus to the connector Modbus RTU EIA485 of IntesisBox. Respect the polarity. Remember the characteristics of the standard EIA485 bus: maximum distance of 1200 meters, maximum 32 device connected, and a 120 ohms terminator resistor in each end of the bus. IntesisBox comes with an internal bus biasing circuit which incorporates internal bus terminator resistor, and thus if you connect IntesisBox in one end of the bus then it is not necessary to install additional 120 ohms resistor in that end.
 - Modbus RTU EIA232:** Connect the serial EIA232 cable coming from the Modbus RTU master device to the Modbus RTU EIA232 connector of IntesisBox, this is a male DB9 connector (DTE) in which only lines TX, RX and GND are used, see pinout details in the user's manual. Respect the maximum distance of 15 meters for this EIA232 line.
- Use the software LinkBoxMB to configure IntesisBox, either by Ethernet or PC Console port. Consult user's manual for details.

Technical characteristics

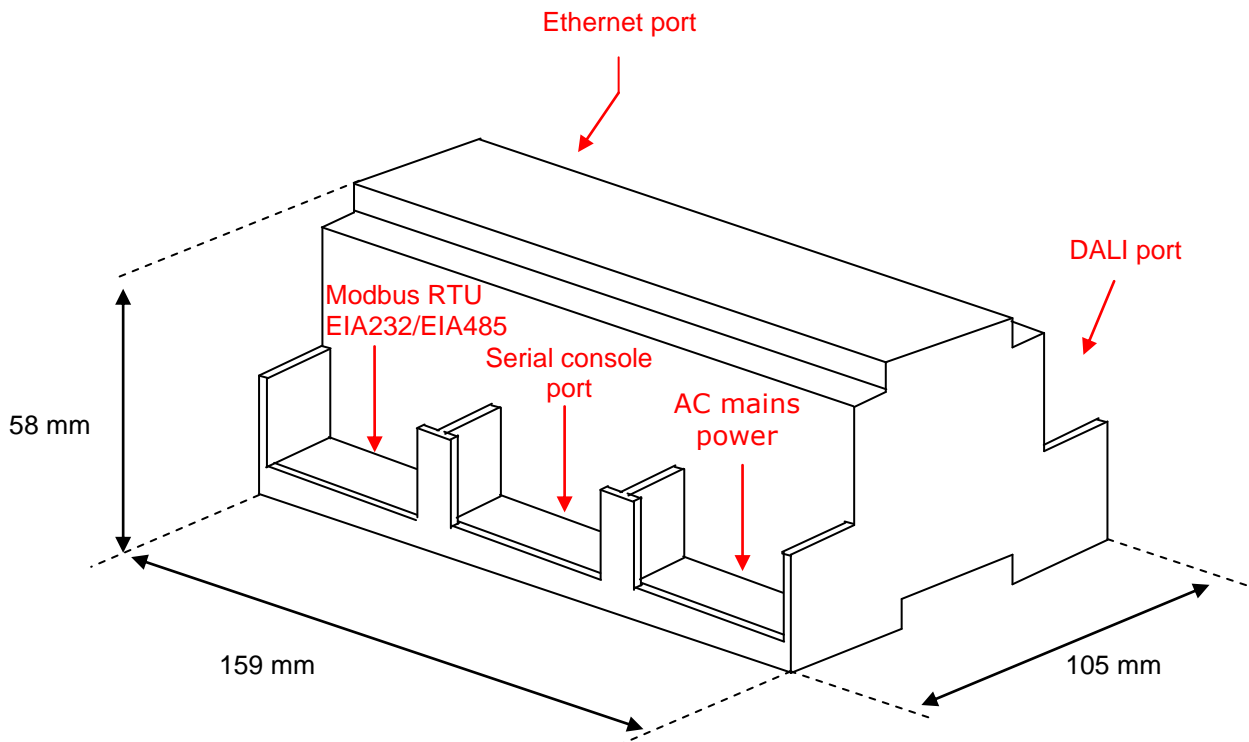
Enclosure	Plastic, type PC (UL 94 V-0). Dimensions: 159mm 105mm x 58mm.
Color	Light Grey / RAL 7035.
Supply Voltage	230Vac +/-10% 6W (3-pole plug-in terminal block – line, neutral and earth)
Terminal wiring (for power supply and low-voltage signals)	Per terminal: solid wires or stranded wires (twisted or with ferrule) 1 core: 0.5mm ² ... 2.5mm ² 2 cores: 0.5mm ² ... 1.5mm ² 3 cores: not permitted
Mounting	Wall. DIN rail EN60715 TH35.
DALI bus power source	15Vdc +/-2% 250mA. (DALI bus is powered from IntesisBox)
DALI port	1 x DALI electrically isolated (2-pole plug-in terminal block). SELV
Ethernet port (Modbus TCP, device config)	1 x Ethernet 10Base-T (RJ45).
Modbus RTU ports	1 x Serial EIA232 (DB9 male DTE). SELV 1 x Serial EIA485 (Plug-in screw terminal block 2 poles). SELV
LED indicators	1 x Power indicator. 2 x DALI activity (Tx, Rx). 2 x Ethernet link & activity (LNK, ACT). 2 x Modbus RTU serial port activity (Tx, Rx). 1 x DALI bus power 1 x DALI test ¹
Push buttons	1 x DALI test ¹
Console port	EIA232. DB9 female connector (DCE). SELV
Configuration	Via Ethernet or serial console port. ²
Firmware	Allows upgrades via console port.
Operational temperature	0°C to +60°C
Operational humidity	25-90% at 50°C, non condensing
Protection	IP20 (IEC60529).
RoHS conformity	Compliant with RoHS directive (2002/95/CE).
Norms and standards	CE conformity to EMC directive (2004/108/EC) and Low-voltage directive (2006/95/EC) EN 61000-6-2 EN 61000-6-3 EN 60950-1 EN 50491-3

¹ DALI test push-button and LED are meant to perform a quick test of your DALI line and connected ballasts.

² Standard cable DB9male-DB9female 1,8 meters long is supplied with the device for connection to a PC COM port for configuring and monitoring the device using the serial port (Ethernet is also possible). The configuration software, compatible with Windows® operating systems, is also supplied.

Dimensions

External dimensions



Free space recommended in the install location of the device, with spacing enough for external connections.

